



OUTLINE OF APPLICATION PROCEDURE

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT

***To begin, complete a pre-application questionnaire (attached, page 6)
to determine whether to proceed to Phase I or Phase II.***

Phase I (site investigation requirements)

Submit the following information:

1. A completed **site investigation application** (old MCESD application)
2. **Two (2) site plans** 1" = 30' minimum scale, showing the two (2) test holes to be inspected, one in the proposed primary disposal area and one in the proposed reserve disposal area. If the proposed OSWTF is a seepage pit then follow the procedure regarding seepage pit performance tests in the APP Rule, or on pages 3, 4 and 5 of this handout.

In Addition, at minimum, the following items must be shown on the site plan (for a complete listing of requirements refer to the

Aquifer Protection Permit Rule, the Test Hole Instruction Packet or one of the NOID Design Packets:

- a. Location of all structures, existing and proposed
 - b. Location of any washes or drainage easements
 - c. Location of any driveways, indicate if they will be gravel or paved
 - d. All easements, set-backs and property lines
 - e. The waterline location. State whether serviced by a water company or other. If serviced by a water company, provide the name of the company. If serviced by a well, state whether there is a shared well agreement or not. **If the 50' setback requirement from the OSWTF and/or reserve area to any property line CAN NOT BE MET** and there is a shared well agreement, then attach a copy of the recorded agreement to your application. This attachment may be submitted with the NOID Packet. Show to which property lines that the well agreement encompasses on the site plan. If water source is by some other means not listed above, then state the source of water.
3. **Vicinity map and written directions** from the nearest paved intersection to the site.
 4. **Parcel number and lot number**, if applicable
 5. **Subdivision name and lot number**, if applicable
 6. **Survey** of the property or any lot splits, if one is available
 7. **Maricopa County Planning and Development building tracking number**, if applicable
 8. Any **other pertinent information** that may impact the placement or installation of the septic system
 9. **\$100 site inspection fee**. This fee will include one visit to the site for the site investigation and/or test hole inspections on one specific lot.

Once submitted, you will receive instructions on preparing for the site inspection and Phase II instructions including a NOID packet.

Phase II - NOID (Notice of Intent to Discharge) Packet Submittal

- After preliminary site work has been completed and approved submit a completed NOID Packet in person or by Certified Mail to MCESD – Water and Waste Management Division at 1001 North Central Ave, Suite 150, Phoenix, AZ 85004. The NOID must have an original signature from the owner of the property. At minimum, the packet must include the following documents, for a more detailed list of requirements refer to the APP Rule or one of the NOID Design Packets:
 - **Two (2) site plans** with the same criteria as Phase I, must now show the final location of the OSWTF and reserve area, drawn in to scale, **as well as the test hole and testing locations**.
 - **One (1) floor plan**. Label all rooms and plumbing fixtures clearly. Must be dimensioned to a reasonable scale.
 - **Legal description, parcel number, building tracking number** (if applicable) **and address**, if assigned.
 - **Vicinity map and written directions** from the nearest paved intersection to the site.
 - **All supporting documentation and calculations**.
 - **Pay application fees** based on OSWTF size. See attached fee schedule on page 2.
 - Once received by MCESD a file number (permit number) will be issued if one has not been previously issued.
- Incorrect or incomplete NOID packets will not be accepted.**

Attachments: Fee Schedule
Pre-Application Questionnaire
Sample Site Plan

GENERAL AQUIFER PROTECTION PERMIT RULE INFORMATION

Background: On December 5, 2000 the Governor's Regulatory Review Council approved three rule packages that are a part of the Division's unified water quality permit initiative. The Rule that governs on-site wastewater disposal systems (septic systems) is called the Unified Water Quality Permit Rule. Through legislative action this rule was developed by the Arizona Department of Environmental Quality under Title 18, Environmental Quality, Chapter 9, Department of Environmental Quality, Water Pollution Control, Articles 1 through 4 and went into effect January 1, 2001.

Sources: A copy of these rules can be obtained at the **Arizona Department of Environmental Quality at 1110 W. Washington, Phoenix, Arizona 85007. The phone number for ADEQ is 602-771-2300.** You may also download the rule from their website at:

<http://www.adeq.state.az.us/lead/oac/stat.html#final>

and rule clarifications at:

<http://www.adeq.az.us/envIRON/water/permits/index.html#clarif>

Another source for the new rule is the **Arizona Secretary of State** located at 1700 West Washington Street, Phoenix, Arizona 85007. The main switchboard number is **602-542-4285**. Their website is:

http://www.sosaz.com/public_services/Title_18/18-09.htm

Maricopa County Environmental Services Department is not responsible for the accuracy of any submittal. The applicant (owner) is responsible for accuracy and correctness of the required information. In addition, the applicant (owner) is responsible to comply with the provisions of the Unified Water Quality Permit Rule. Incorrect or inaccurate information will delay the permitting and approval process.

The following information is provided to assist the applicant in calculating charges that may be applied.

FEE SCHEDULE	
REQUIRED SEPTIC TANK CAPACITY (gallons)	FEE
Up to 1,499	\$ 225.00 *
1,500 to 1,999	260.00 *
2,000 or larger	305.00 *
Alternative OSWTF	300.00
* Fee includes up to two (2) construction inspections	
MISCELLANEOUS SERVICES	
Site/Soil Evaluation Inspection (per visit, per site)	\$ 100.00
Alteration Permit	70.00
Additional Inspections	70.00 / hr
Misc. Review / Reconnect Plan Review	30.00
Copies (up to 11" x 17")	.25 / page

TYPES OF CONVENTIONAL ON-SITE WASTEWATER DISPOSAL SYSTEMS

Referenced from R18-9-E302, 4.02 general permit

General Information: Sewage disposal of individual homes that lie outside a public sewer district can be accomplished by on-site wastewater treatment facilities commonly called septic systems. A conventional septic system will consist of two parts: a tank to capture the solids and grease, and a drainfield or disposal area to dispose of the liquid. The type of drainfield will depend on the soil characteristics and site conditions. The most common type of drainfield for disposal of wastewater from septic tanks are shallow trenches, seepage pits, deep trenches, leach beds and chamber technology.

ALL DISPOSAL FIELDS LISTED IN 2 THROUGH 5 BELOW REQUIRE A MINIMUM OF TWO (2) 10'-15' DEEP TEST HOLES DUG OUT BY A BACKHOE. SOILS ANALYSIS AND/OR PERCOLATION TESTS MUST BE COMPLETED AND PASS ALL CRITERIA FOR A CONVENTIONAL SYSTEM. ONE (1) TEST HOLE SHALL BE EXCAVATED IN THE PROPOSED PRIMARY DISPOSAL AREA AND ONE (1) TEST HOLE EXCAVATED IN THE PROPOSED RESERVE AREA. SEE THE APP RULE, PAGE 4 OF THIS PACKET, THE TEST HOLE PACKET OR THE NOID DESIGN PACKETS FOR ADDITIONAL REQUIREMENTS.

1. **SEEPAGE PITS, R18-9-A312(E)(1):** A seepage pit is a drilled pit, no less than 48" in diameter that is filled with aggregate. The depth of the pit, or pits, is based on the design flow and soil absorption rate (SAR) for that particular site. (Design flow means the daily flow rate a facility is designed to accommodate. See R18-9-101 for further definition). The seepage pit may only be installed in valley-fill sediments in a basin and range alluvial (moved by water) basin. It must also be established that the site satisfies the minimum vertical separation test. Once these criteria have been proven acceptable, the pit must then pass a seepage pit performance test. For a seepage pit to be considered for disposal, the following documentation must be submitted with the NOID:
 - a) A detailed engineered report, prepared by an Arizona Registered Engineer, Geologist or Sanitarian with soils background and experience in the on-site wastewater disposal field, certifying the site has sufficient valley-fill sediments in a basin & range alluvial (moved by water) basin for the seepage pit to perform properly.
 - b) Written test procedures and results from a seepage pit performance test conducted in accordance with R18-9-A310. See page 4 of this packet or R18-9-A312E for more information.
 - c) Site Investigation Report identifying any limiting conditions.
 - d) Drill logs, well logs or records from Arizona Department of Water Resources identifying the depth of seasonal high water.
2. **SHALLOW TRENCHES, R18-9-E302(A)(2) and (C)(2):** One or more trenches filled with aggregate. Trenches may be 12" to 36" wide, have a maximum overall depth of 60" and a maximum length of 100'. MCESD highly recommends that trenches over 50' in length be split into two or more trenches of lengths less than 50' to provide a more even distribution of wastewater and better absorption by the soils. Minimum space between each trench is twice the effective depth (the distance between the bottom of the distribution pipe and the bottom of the trench) or 5', whichever is greater. In calculating the disposal area, the 12 inches below the distribution pipe cannot be used to determine the absorption area. Therefore, only the distance from the bottom of the trench up to 12 inches below the pipe may be used. See R18-9-A312(D) for more information.
3. **DEEP TRENCHES, R18-9-E302(A)(2) and (C)(2):** One or more trenches filled with aggregate. A deep trench may be 12" to 36" wide, have an overall depth of 60" to 96", and a maximum length of 100'. MCESD highly recommends that trenches over 50' in length be split into two or more trenches of lengths less than 50' to provide a more even distribution of wastewater and better absorption by the soils. Minimum space between each trench is twice the effective depth (the distance between the bottom of the distribution pipe and the bottom of the trench) or 5', whichever is greater. In calculating the disposal area, the 12 inches below the distribution pipe cannot be used to determine the absorption area. Therefore, only the distance from the bottom of the trench up to 12 inches below the pipe may be used. In addition, the soil absorption rate (SAR) is decreased by approximately 30%, therefore, increasing the overall area required for the sewage disposal. See R18-9-A312D for more information.
4. **LEACH BED, R18-9-E302(A)(2) and (C)(3):** A shallow disposal field, which is filled with aggregate. The bed width is between 10' and 12' with 2 distribution lines. The maximum overall depth is 60" and the maximum length is 100'. MCESD highly recommends splitting up the system into multiple, shorter beds to provide more suitable distribution of wastewater than one long bed. In calculating the size of the leach bed ensure that the area of each bed is at least 50% greater than the tabular dimensions required for a trench. Also use the same criteria as for a deep trench by decreasing the SAR by approximately 30%.
5. **CHAMBER TECHNOLOGY, R18-9-E302(A)(2) and (C)(4):** This method of disposal uses an ADEQ approved chamber as the filter media rather than aggregate. The chambers are placed in very shallow trenches. All chambers must be installed per Arizona Department of Environmental Quality approved directions.

SITE/SOILS TESTING TYPES DESCRIPTION

Referenced from R18-9-A310

SITE INVESTIGATION R18-9-A310(C) and (D): A site investigation will consist of a visual examination identifying any limiting site conditions, as stated on page 5 of this packet and R18-9-A310(B), that may interfere with the operation of an on-site wastewater disposal system. The information obtained from a site investigation is used in conjunction with the soil analysis to locate, select and design an on-site wastewater disposal system.

TEST HOLE EVALUATION R18-9-A310(C), (D) and (G): A minimum of **two (2)** 10' to 15' deep holes shall be excavated by a backhoe on the lot. Test holes must be examined to a depth of at least 5' deeper than the overall installation of the disposal field. One test hole is to be dug in the proposed primary disposal area and one in the proposed reserve area. A reserve area is an area equal to the primary area to be set aside for use at a later date should the primary area fail or need to be abandoned. These holes are to be analyzed and tested by an Arizona Registered Engineer, Geologist or Sanitarian with soils background or experience in the on-site wastewater disposal field. The analysis will determine the characterization of the soils and will establish a soil absorption rate (SAR) to be used in calculating the size of the septic system. The Aquifer Protection Permit Rule describes the approved methods for determining soil characteristics.

PERCOLATION TESTS R18-9-A310 (E): A percolation test is a water absorption test conducted in the primary disposal area and reserve disposal areas. They must be performed at each horizon (soil change) of the test hole. The percolation test hole shall be 12"x12" square or 15" round, presoaked with clean water 16 to 24 hours in advance of the actual test as stated in Rule. This test may be used solely or in conjunction with a test hole analysis to determine the soil absorption rate (SAR) to be used in calculating the size of the disposal system. The test results represent how fast the water will absorb into the soil (drop) over a specific period of time. Report in minutes per inch.

SEEPAGE PIT PERFORMANCE TEST R18-9-A310 (F): This test is conducted for seepage pits only. Identify the primary and reserve disposal areas on the site plans. In the primary area only, conduct the test in a hole, a minimum 18" in diameter and at least 30' deep, or to the depth of the proposed seepage pit, whichever is greater. Presoak the hole with clean water to a point 36" below the land surface. Observe as per R18-9-A310(F)(2). Conduct the actual test by refilling the hole with clean water to the same point as for the presoak and measure how far the water level drops in 10-minute increments. The final numbers will represent a soil absorption rate (SAR) to be used in calculating the size and number of seepage pits to be installed at the site. See page 5 for additional requirements and details of this type of test.

R18-9-A310(F). Seepage Pit Performance Testing*

An investigator shall test seepage pits described in R18-9-E302 as follows:

1. Planning and Preparation. The investigator shall:
 - a. Identify primary and reserve disposal areas at the site. A test hole at least 18 inches in diameter shall be drilled in the primary disposal area to the depth of the bottom of the proposed seepage pit, at least 30 feet deep.
 - b. Scarify soil surfaces within the test hole and remove loosened materials from the bottom of the hole.
2. Presoaking procedure. The investigator shall: **(include complete details with the NOID submittal)**
 - a. Fill the bottom six inches of the test hole with gravel, if necessary, to prevent scouring;
 - b. Fill the test hole with clean water up to three feet below the land surface.
 - c. Observe the decline of the water level in the hole and determine the time in hours and minutes for the water to completely drain away.
 - d. Repeat the procedure if the water drains away in less than four hours. If the water drains away the second time in less than four hours, then the seepage pit performance test shall be conducted following subsection (F)(3).
 - e. Add water to the hole and maintain the water at a depth that leaves at least the top three feet of hole exposed to air for at least four more hours if the water drains away in four or more hours;
 - f. Not remove the water from the hole before the seepage pit performance test if there is standing water in the hole after at least 16 hours of presoaking.
3. Conducting the test. The investigator shall: **(include complete details with the NOID submittal)**
 - a. Fill the test hole with clean water up to three feet below land surface.
 - b. Observe the decline of the water level in the hole and determine and record the vertical distance to the water level from a fixed reference point every 10 minutes. The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the rate of fall of the water level in the test hole.
 - c. Measure the decline of the water level continually until three consecutive 10-minute measurements indicate that the infiltration rates are within 10%. If measurements indicate that infiltration is not approaching a steady rate or if the rate is close to a numerical limit specified in R18-9-A312(E), an alternate method based on a graphical solution of the test data shall be used to approximate the final stabilized infiltration rate.
 - d. Submit the seepage pit performance test results to the Department, including: *
 - i. Data, calculations, and findings and all supporting on a form provided by the Department.
 - ii. The log of the test hole indicating lithologic characteristics and points of change; and
 - iii. The location of the test hole on the site investigation map.
 - e. Fill the test hole so that groundwater quality and public safety are not compromised if the seepage pit is drilled elsewhere or if a seepage pit cannot be sited at the location because of unfavorable test results.

*** In addition, MCESD requires that the following items are included with the seepage pit test results:**

1. **The field worksheets recording all procedures in detail.**
2. **Identification on the site plan where the seepage pit performance test(s) were conducted, including measurements to at least two adjoining property lines.**

**Maricopa County Environmental Services Department
Water and Waste Management Division**

SITE INSPECTION INSTRUCTIONS

These instructions are intended for all conventional OSWTF installations EXCEPT Seepage Pits. See the Pre-Application Questionnaire for more details regarding the requirements for Seepage Pits.

Submit two (2) detailed site plans, to a scale of at least 1" = 30'. The investigation will be conducted only if the plan includes all of the following items: (a sample site plan is attached for reference)

- Complete legal description and a street address if assigned.
 - North arrow.
 - Vicinity map and written directions to the property from the nearest paved cross streets.
 - Accurate lot dimensions.
 - Location of all structures and driveways on the property, existing or proposed.
 - Location of any wells on the property, present or future, and within 200' outside of the property.
 - Any washes, drainage easements, water retention basins, drop-offs, or similar features on or within 200' of the property that may impact the OSWTF location and design. An approved plan from the Flood Control Authority may be required.
 - Topographic map of entire lot if slope exceeds 5% (5' drop in elevation per 100 lateral feet).
 - Any easements such as ingress/egress, utilities, streets, right-of-ways, etc, clearly labeled.
 - Location of the two test holes with accurate distances from at least two connecting lot lines, other permanent features, or structures. One test hole is to be dug in the proposed primary disposal area and the other in the proposed reserve disposal area.
 - A completed and signed General Application with appropriate fees paid.
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WHAT TO DO NOW

- ❖ Excavate or contract to have a test hole excavated on the site by a backhoe. The test holes are to be dug in the proposed disposal areas, one in the primary area and the other in the reserve area. **Tailings from the excavated holes are to be placed in two separate piles.** The top ½ of the excavation must be placed closest to the hole and the bottom ½ of the excavation must be placed farthest from the hole. It is recommended to mark each pile with a sign stating what level the pile was excavated from. Minimum overall depth must be 5' deeper than the proposed overall depth of the disposal field (10' minimum depth for a shallow trench or 12'+ minimum depth for a deep trench). It is **HIGHLY RECOMMENDED** to dig a deep test hole from the start, as there may be a reason later to install a deeper OSWTF. If test holes have not been dug to at least 5' deeper than the installed disposal field **ADDITIONAL TESTING WILL BE REQUIRED**. If this happens the permitting and approval process **WILL BE DELAYED and possibly denied**. If you encounter refusal, contact this office for further instructions.
- ❖ Clearly **stake the corners of the property** with markers that can be seen from the proposed disposal areas.
- ❖ Clearly **stake the corners of the proposed structure(s)**. For safety purposes stake-off the test hole area with caution ribbon or flags. The test holes may also be covered with plywood, chain link fencing or a similar material, which can be easily removed, for the inspection.
- ❖ If required, **stake the proposed well site** with a marker that can be seen from the proposed disposal areas.
- ❖ **Post a sign**, minimum of 3' square with 4"-6" lettering. The lettering must state the owner's name, street address if available, and the OSWTF file/permit number at the entrance to the property.
- ❖ When ready for inspection call 602-506-6666, option 3 to record your request for an inspection.
- ❖ If you have questions please call 602-506-6666.

